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Knowledge Management in Integration with Business Intelligence Systems: A Descriptive Analytical Research[1]

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ABSTRACT

The research aims to test the relationship between knowledge management and business intelligence in the Trade Bank of Iraq, being one of the vital service organizations that have a fundamental role in serving an important segment of the public as well as its vital economic role. Therefore, the adoption of modern administrative concepts such as knowledge management and its role in achieving business intelligence can be It helps it face these changes and achieve its goal of providing the best services in quantity and quality. The research sample was selected using a random sample method, consisting of (64) workers in the bank, and the questionnaire was relied upon as the main tool to obtain research data, which was prepared based on several Ready-made scales after they were subjected to validity and reliability tests, and to test the validity of the hypotheses and answer the research questions, the analytical descriptive approach and statistical tests were used, including: mean, standard deviation, percentages, frequencies, Pearson's correlation coefficient, simple linear regression, and Depending on the statistical program (SPSS.V.25), the research reached a set of conclusions, the most important of which is that the level of knowledge management and business intelligence in the Trade Bank of Iraq is more than average for both variables and that there is a strong correlation between knowledge management and business intelligence. A set of recommendations was presented, the most important of which was the need to continue attracting those with experience in banking, taking into account their desire to share their tacit knowledge with other workers to preserve their expertise from waste, leakage, and forgetfulness, and to intensify the information-digital networking to join the parties inside the bank and stakeholders outside the bank with each other**.**

Keywords: *knowledge management K.M, business intelligence B.I , knowledge sharing, business intelligence applications*

INTRODUCTION

Contemporary societies and economies have become knowledge-information par excellence after the escalating shift towards the use of knowledge as an intensive content and infrastructure that adopts digital algorithmic digitization in the form of information and communication technology I.T.C through advanced computers, Internet networks and software until the level of density of knowledge economies reached nearly 10% of the global GDP And that 50% of productivity growth in the European Union has become a direct result of the use and production of information technology and network communications. The knowledge economy originally means the dominance of K.M. knowledge management and intellectual capital I/C in an overwhelming manner over the current technological economic growth in the knowledge economy while it was traditionally dependent On solid physical assets and physical capital. This dangerous transformation came as a result of the conditions of globalization and global trade openness and the conditions of intense competitiveness currently prevailing, which compelled companies, in order to survive, grow and continue to obtain the leading market share, to intensify knowledge management, investment and organization processes in a smart way that supports Problem solving and strategic decision-making D.S.S integration and nesting Associate with Business Intelligence Systems B.I. For the purpose of shortening the life cycle of its products, developing it and building its sustainable competitive advantage.

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METHODOLOGY

The methodology includes the problem of the study, its objectives, importance, approach, model, hypothesis, temporal and spatial limits, and statistical methods.

First: The Research Problem

The problem of the study focuses on employing knowledge management, the process of integration with business intelligence systems, and is represented by the following questions:

- What is the extent of actual interest by the Trade Bank of Iraq in both knowledge management and business intelligence systems?
- What is the extent of appreciation and actual interest of senior management in knowledge management and its operations, business intelligence systems, applications, tasks and functions?
- What is the level of integration between knowledge management and business intelligence?
- What is the summary of theoretical ideas and concepts related to knowledge management and business intelligence?

Second: The Importance of Research

The importance of the study is due to the importance of the study variables explanatory knowledge management and respondent business intelligence systems and the dimensions of each of them, as the interest in the digital knowledge economy that depends mainly on information and knowledge resources, the organization and management of knowledge, information and data, investment and employment in business intelligence systems and its mechanisms concerned with immediate analytical processing, models of future predictions and systems Support operational and strategic decisions in a way that enriches added value and sustainable competitive advantage.

Third: Research Objectives

The study seeks to diagnose and analyze the integration and mutual influence between knowledge management and business intelligence systems, while understanding the questions and implications of the problem, and achieving the following goals:

- Standing on the actual interest of the researched institution in knowledge management and business intelligence
- Recognizing the level of interest and appreciation of the researched institution for the importance and vitality of the dimensions of knowledge management and business intelligence
- Verifying the links of complementarity and influence between knowledge management and business intelligence
- Develop a theoretical framework that deals with a summary of the ideas and concepts of knowledge management and business intelligence

Fourth: The Hypothesis of the Research

The study is based on two main hypotheses:

- There is a statistically significant correlation between knowledge management with its dimensions and business intelligence systems with its dimensions, and the following sub-hypotheses branch out from it:
- There is a statistically significant correlation between the generation and development of knowledge and business intelligence

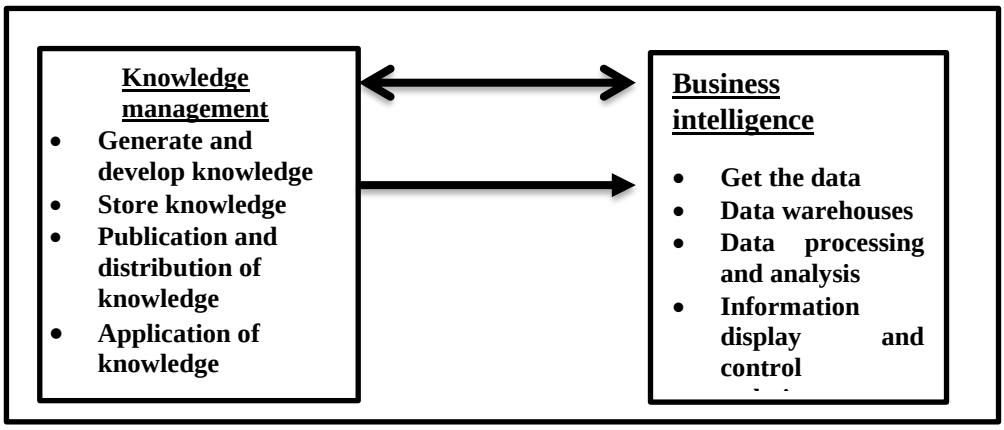

Figure (1) Model of the study

- There is a statistically significant correlation between knowledge storage and business intelligence
- There is a statistically significant correlation between the post dissemination and distribution of knowledge and business intelligence
- There is a statistically significant correlation between the dimension of knowledge application and business intelligence
- There is a statistically significant effect between knowledge management and its dimensions in business intelligence systems and its dimensions, and the following sub-hypotheses branch out from it:
- There is a statistically significant effect relationship for the generation and development of knowledge in business intelligence
- There is a statistically significant effect of the knowledge storage dimension in business intelligence
- There is a statistically significant effect relationship for the dimension of dissemination and distribution of knowledge in business intelligence.
- There is a statistically significant effect relationship for the dimension of applying knowledge in business intelligence

Fifth: Study Methodology:

The analytical descriptive approach was followed by preparing a questionnaire for the study related to the explanatory variables knowledge management, and the respondent business intelligence systems, as shown in the questionnaire preparation table.

Sixth: Study scale:

The questionnaire was used as a main tool for data collection, and a scale (Mertins K. & Heisig, 2001) was adopted to measure the dimensions of knowledge management, and a scale (Surendra, 2013) to measure the dimensions of business intelligence.

LITERATURE REVIEW

First: the concept of knowledge

Today, knowledge constitutes a vital, rare and strategic resource for contemporary organizations, as the application, organization, and conscious investment of knowledge leads to the generation and reproduction of other knowledge, and then sharing and employing it within the purposes and businesses of organizations, increasing their revenues, improving their performance, and their future choices. Based on this, any ambitious organization to continue its strategic success must realize and understand knowledge, its management, functions and dimensions in order to organize and follow up its operations and improve its work and development mechanisms. To begin with, there are differences between data, information, and knowledge, and data is represented by data as observations and facts that are used for calculation and inference, such as raw letters and numbers, which in themselves are abstract, meaningless, and unorganized, as they are isolated from context, and thus they constitute the architecture of the foundation for information and knowledge, and the fact that data is outside the framework of context and meaning They are easy to store and transport by means of electronic technologies and other transport channels. And it requires in order to become information beyond the metadata, that is, the descriptive data represented by the contextual framework linking the basic structure and acquiring meaning or meaning. Therefore, information is interconnected and activated data within the framework of a known context of significance and benefit, by collecting, correcting, tabulating and processing data for the purpose of adding value and clarifying direction And pattern (Gottschalk, 2008). Peter Drucker (1998) said that information is data implicitly linked to context and purpose.

While knowledge is represented by doing what is based on data or previous knowledge or both, which means that not all information can be transformed into knowledge, but only valuable information that reduces the degree of uncertainty. Knowledge is created through contextual information and experiences, including new and renewable information through the dialectical relationship between The human mind and productive practice. Thus, implicit knowledge resides in the minds of individuals, while the explicit knowledge is stored in various technologies such as digital databases, books, documents, CDs, hard memory, and computers. Knowledge is dynamic and kinetic that depends on the minds of individuals and requires the restoration of its production, while information in general is static and independent of individuals and is explicit and written digitally or in letters known and easy to reproduce and has no specific meaning (Sveiby, 2001).

Knowledge is the product of the collection, fusion, and interaction of information, data, experience, creativity, and conscious mental thinking, and pouring it into the course of the motor context. Here, knowledge embodies the strategic ability that is used for the purpose of studying, generating, and improving the competitive advantage (Becerra & Sabherwal, 2014).

Knowledge is an innovative process that starts from the unorganized informational and graphic content up to understanding and cognitive awareness. In other words, it is the transformation of static static information into a dynamic dynamic reality located at the top of the pyramid with the information taking the middle level while the data takes the lowest level at the base of the pyramid (Liebowitz, 2010). Knowledge is

a mixture of ideas, procedures, and rules that guide decisions and actions. It is information, facts, and experiences that are uniquely fused together, allowing individuals and organizations to create new situations and manage change and adaptation (Thornley et al, 2016).

Knowledge is classified into explicit, written or coded knowledge, and tacit knowledge lurking in the heads of individuals, but all knowledge has its roots in tacit knowledge. Thus, tacit knowledge is the reference origin for explicit knowledge, and it is not only a static entity stuck in memory, but rather a process of learning and mental and skill development (Edgar & Albright, 2022).

On this philosophical basis, which embodies the relationship between explicit and implicit knowledge, which was mentioned in the theories of Polanyi (1974) and his assumptions, the Japanese researchers Nonaka and Takeuchi presented later in the early nineties of the last century their spiral model of the development of knowledge and its four overlapping stages in preparation for its practical embodiment in understanding, formation and organizational analysis of cognitive activities in the SECI formula. .

The idea of the SECI matrix is summed up in the interactive spiral movement of explicit and tacit knowledge accompanied by four cognitive transformations that lead to the formation and upbringing of emerging organizational knowledge. They work in it and within its environment (Nonaka & Takeuchi, 1995)

Second: the concept of knowledge management K.M

There are differences in viewpoints regarding knowledge management, its content and functions. Some of them view it as a functional administrative process that seeks to attract and share knowledge and generate new knowledge that is used in developing performance and adding value to the organization. While others went to an unconventional management perspective that is in line with the often intangible nature of knowledge that cannot be modeled and stored, as K.M. knowledge management is embodied in the life cycle of Life-Cycle L.C. It includes all the tangible and intangible activities of the administration within the scope of its responsibilities for knowledge assets and intellectual capital, which means understanding the organizational knowledge of the living organism and the complex laws of life apply to it in its dynamic dynamic process and the stages of its development and growth in its organic environmental context in a coherent relationship and mutual impact.
Knowledge management is defined as a way of thinking to organize and share the creative and intellectual resources of the organization, referring to its efforts to organize intellectual capital and promote a culture of learning and knowledge sharing for the purpose of building organizational activities (Daft, 2010). It is also the endeavor to raise the level of useful knowledge in the institution by encouraging communication and learning opportunities and promoting the sharing and sharing of relevant knowledge (Mclnerney & Koenig, 2010). Likewise, it is the organized management of knowledge and the associated processes related to its generation, collection, organization, dissemination, use, and investment to achieve organizational goals (Skyrme, 2002). Therefore, there is a fundamental differentiation from functional administrative operations in production, financing, marketing and human resources.

In all cases, and despite the difference between the two schools in their cognitive perspectives, there is a consensus on the possibility of managing knowledge within the framework of its essence and its becoming from birth, development, renewal and creativity.

The researchers differed in their perspectives on knowledge management processes and their dimensions, but the most frequently used ones are (Skyrme, 2002);

- Knowledge acquisition and storage
- Sharing and developing knowledge
- Application of knowledge
- Generate knowledge

The researchers look within the framework of three main schools of knowledge management, the first is human-oriented knowledge management represented by individual and organizational knowledge, the second is technology-oriented through knowledge management platform and tools, and the third is operations-oriented represented by the life cycle of knowledge from a strategic perspective (Robinson, 2010)

Knowledge management can be defined according to the first school, as innovation, capture and acquisition of knowledge, sharing and using it for the purpose of enhancing learning and performance in the organization (Swan et al, 1999). It is also a clear systematic management of knowledge and the processes associated with it to achieve the goals of the organization (Davis et al, 2005). This school assumes the application of practice in knowledge management, as knowledge in its framework is tacit and difficult to exchange, and it is shared through collaborative computing, collective decisions, electronic brainstorming, and video conferencing (Turban et al, 2011)

Within the framework of the second technology-oriented school, knowledge management depends on information systems and its technologies (IT) and represents the direction of management information systems. Knowledge management is defined in its framework as procedures, methods and tools that combine with a comprehensive approach that contributes to the enhancement of cognitive processes (Jashapara, 2004). Also, knowledge management is supportive processes and technologies that the organization seeks to develop for the purpose of creating, storing, transferring and using knowledge (Laudon & Laudon, 2011). Knowledge management here represents a set of operations that help organizations and support them in dealing with knowledge and storing it in knowledge repositories (O`Brien & Marakas, 2011). According to this school, the organization adopts a technical approach by encoding knowledge and applying a clear policy to control its collection, storage and dissemination, due to the fact that knowledge here is clear and explicit in nature (Turban et al, 2011).

The third process-oriented school represents knowledge management according to its perspective as a life cycle and a complex organizational process by developing practical tasks, generating cases, knowledge innovation, acquisition, identification, evaluation, storage, dissemination, coordination, application, or use with the support of established procedures (Maier & Hadrich, 2011). Among the definitions of this school of K.M. knowledge management is that it is the processes of benefiting from the various forms and forms of knowledge, its dissemination, sharing, control, direction and innovation (Gupta, 2008)

Therefore, it is not possible to limit ourselves to a single school or perspective from the foregoing, but the safest is the integration of these perspectives and their familiarity with each other and dealing with them according to the context and the situation, as knowledge management is based on advanced computer and network technologies organizationally and with the management, guidance and control of creative human minds during the continuity of cognitive performance in order to enhance and sustain the advantage sustainable competitiveness.

Third: business intelligence:

Although the concept of business intelligence was introduced in the second half of the last century, it crystallized scientifically years ago as a creative method based on advanced patterns of algorithms that flow into decision support systems (DSS) and operational information systems (EIS) and their purpose is to understand and diagnose the interrelationships between variables in the way that directs business towards the set goals.

Advanced digital techniques have been identified for the application of business intelligence, represented by summarizing documents and coding them automatically, updating them and presenting them to the decision-maker (Agrawal et al, 2009). It has gone through time stages in the course of its development, starting with writing reports and executive information systems using the fourth generation of large computers, then the stage of deep query and multi-dimensional simultaneous analytical processing at the end of the nineties of the last century, passing through cloud computing and predictive analysis at the beginning of the current twenty-first century, leading to the crystallization of the concept and uses Business intelligence on a large scale to improve the performance of projects and sustain their competitive advantage (Howson, 2007)

Business intelligence is an umbrella term - Umbrella that contains under its umbrella and is based on data-oriented decision support systems, administrative decision systems, interactive systems design, predictive analysis, processes and systems for retrieval, exploration, querying, extraction, warning, electronic portals, post-data Metadata, and immediate analytical processing tools (Turban et al, 2011).

Business intelligence is defined as a set of methods and concepts to improve decision-making using supportive systems based on facts (Olsson & Sandell, 2008).

Today, organizations seek to examine and review their operations in search of new revenues and additional cost savings. Certainly, the business intelligence function facilitates and facilitates this and supports the necessary decision-making. Business intelligence includes a wide range of analytical software and solutions necessary to collect and configure ways to reach the best business decisions (Adelman and Moss, 2000), in addition to being integrated applications to support decisions, including databases (Moss & Atre, 2003).

Business intelligence is a deep analysis of business data by employing applied techniques, database management software, and the practice of analysis (Gangadharan & Swami, 2004). It also includes the processes of converting data and information into knowledge and into application plans, in addition to business analysis tools and knowledge content management for the purpose of improving business performance (Azvine et al, 2005). It is also concepts, methods and processes for the purpose of improving business decisions by applying experiences and

developing an accurate understanding of business dynamics (Pareek, 2006).

Therefore, business intelligence requires three overlapping processes that include collecting data, storing it in warehouses, using extraction, conversion, and analysis using the data cube, informational purification from heterogeneous sources, reporting tools, displaying information and knowledge using interactive interfaces in real time (Westerlund, 2008).

Thus, business intelligence represents the discovery and organized analysis of information and knowledge interactively for a specific field to indicate trends related to business applications for the purpose of extracting results and ideas for the final beneficiary (Chee et al, 2009), as it is a technical portfolio with integrated applications to support performance from beginnings to ends, including solutions Operational business systems, including warehouses, databases, and financial performance management applications.

The general framework of business intelligence includes internal and external data sources, working on their integration in data warehouses and then organizing them, excavating and querying them, and working on analyzing them in the form of executive information systems and decision support systems, to come up with visible results and decisions and pour them into K.M knowledge management processes and thus come up with strategic and operational solutions Concerned with customer relations, electronic commerce, supply chain, etc. (Turban et al, 2011). From this it is clear that business intelligence is an umbrella that expands data warehouses, analysis tools, applications and methodologies within the framework of integrated and unified programs, especially the possibility of meeting three overlapping and non-intersecting entrances, which is the entrance to the administrative process that focuses on Implementation mechanism through decision-making support, computerized technical technological entrance, and product entrance concerned with the use of software and integrated solutions (Chee et al, 2009), which is an approach to achieving strategic success at all levels. Smart organizations employ business intelligence systems to enhance their strategies and to be more predictable. And future forecasting of economic and market environmental variables to enhance the knowledge and experience of WTH The culture of the organization and its capabilities to adapt and innovate. Certainly, the mechanism and dynamics of this function is based on efficient business intelligence centers (BICCs), which is a team with multiple functions to carry out roles, tasks and processes that promote the effective use of business systems, including analysis and interpretation of information and answering all technical and systemic questions (Miller et al 2006).

Also, these efficient centers of business intelligence prepare systems of core competencies, know-how, and analytical and administrative capabilities to develop solutions and ensure the extents of the required impact of analytical models on organizational levels by maximizing returns, reducing costs, and sustaining the competitive advantage of the organization (Laursen & Thorlund, 2010).

Among the most prominent justifications for the establishment and development of efficient business intelligence centers (BICCs) in the contemporary organization is (Howson, 2008)

- Aligning business intelligence systems with business processes
- Developing the value of investments and upgrading their levels Risk reduction

•Act on advanced analytics and comprehensive understanding of data and information

•K.M knowledge management and its participation in all components and units of the organization and for all employees

Activating efficient centers for business intelligence leads to documenting and following up strategic success and to continuous improvement of performance through business intelligence systems procedures, unifying information sources, reducing costs, raising the level of effectiveness, and the mechanisms of providing information and applied knowledge. Thus, business intelligence solutions lead organizations to a new era that achieves control and control for beneficiaries Finalists, decision support and real-time knowledge management to address the critical tasks facing the organization.

Fourth: Dimensions of business intelligence:

The researchers dealt with the dimensions of business intelligence in a different way, including data mining D.M, data warehouse D.W, real-time analytical processing OLAP, analytical applications, customer relationship management CRM, information reports, business intelligence applications, business intelligence tasks, etc. For the purposes of the study and the establishment of a measurement questionnaire, the study was adopted The following dimensions:

- Data acquisition: It includes obtaining data, converting it into information, organizing it, and disseminating it (Azvine et al, 2007).
- Data warehouses: These include areas of development such as building relationships with customers, analyzing costs and financial flows, investing knowledge effectively in decision-making, strategic planning, and knowledge generation methods (Olszak & Ziemba, 2003).

- Techniques for displaying and monitoring information that includes material and moral support by senior management for workers at all levels and enabling them to participate in problem-solving and decision-making (Olszak & Ziemba, 2003).
- Data processing and analysis: Among the most widely used of these applications are: D.W data warehouse, OLAP real-time analytical processing systems, D.M data mining, and EDI electronic data interchange (Howson, 2008)

RESULTS

First- Analyzing the paragraphs of the questionnaire for the knowledge management variable

Table (1) presents an arithmetic mean for the variable of knowledge management and its value is (4.07), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.284) and (6.9%), respectively. This result indicates that the level of knowledge management application Knowledge in the Trade Bank of Iraq was at a good level. Paragraphs will be clarified at the level of dimensions as follows

1. Generate and develop knowledge

Table (1) presents an arithmetic mean for the generation and development of knowledge dimension, and its value is (3.78), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.971) and (24.4%), respectively. Paragraph No. (4) has the highest arithmetic mean, as it reached (4.03) (the bank is keen to attract and appoint people with experience and skill) and with good consistency with the answers, as the standard deviation and coefficient of variation reached (0.828) and (20.5%), respectively, and Paragraph (3) (The workers learn from experts to enrich their experiences and knowledge) The lowest arithmetic mean was (3.75), with acceptable consistency with the answers, as the standard deviation and the coefficient of difference reached (0.947) and (25.2%), respectively.

2. Stock up on knowledge

Table (1) shows an arithmetic mean for the knowledge storage dimension and its value is (3.96), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and the coefficient of variation reached (0.447) and (11.2%), respectively. No. (7) has the highest arithmetic mean, as it reached (4.18) (the bank's management documents the success stories of employees and the bank's achievements) and in good harmony with the answers, as the standard deviation and coefficient of variation reached (0.836) and (20%), respectively, and paragraph (6) was achieved. (The bank is keen to document work progress reports and banking activities) the lowest arithmetic mean, as it reached (3.73), with acceptable consistency with the answers, as the standard deviation and the coefficient of difference reached (0.935) and (20%), respectively.

3. Dissemination and distribution of knowledge

Table (1) reflects the arithmetic mean of the dimension of knowledge dissemination and distribution, and its value is (3.96), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and the coefficient of variation reached (0.367) and (9.2%), respectively. Paragraph No. (13) has the highest arithmetic mean, as it reached (4.04) (the bank provides employees with an internal information network) and with good consistency with the answers, as the standard deviation and coefficient of variation reached (0.837) and (20.7%), respectively, and Paragraph (12) was achieved (the bank depends Training programs for the dissemination and exchange of knowledge and experiences), the lowest arithmetic mean, reaching (3.89), with acceptable consistency with the answers, as the standard deviation and the coefficient of variation reached (0.836) and (21.4%), respectively.

4. Application of knowledge

Table (1) shows the arithmetic mean for the knowledge application dimension, and its value is (4.06), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and the coefficient of difference reached (0.478) and (117%), respectively. No. (18) has the highest arithmetic mean, as it reached (4.07) (the bank is keen to employ its knowledge to develop and provide advanced banking services) and in good harmony with the answers, as the standard deviation and coefficient of variation reached (0.837) and (20.5%), respectively, and paragraph (16) was achieved. (The bank employs its expertise and knowledge to develop its banking operations) The lowest arithmetic mean was (3.93), with acceptable consistency with the answers, as the standard deviation and the coefficient of variation reached (0.827) and (21.0%), respectively.

Table 1: Descriptive analysis of the knowledge management variable

Items	Mean	S.Dv	C.V
A- Generate and develop knowledge	3.78	.917	0.242
1- The bank is interested in new ideas for employees and customers to add value	3.95	.858	0.217
2- The bank is concerned with research and development operations	4.01	.747	0.186
3- Workers learn from experts to enrich their experiences and knowledge	3.75	.947	0.252
4- The bank is keen to attract and appoint people with experience and skill	4.03	.828	0.205
B- Store knowledge	3.96	.447	0.112
1- The bank owns electronic-digital databases	3.97	.946	0.238
2- The bank is keen to document reports of work progress and banking activities	3.73	.935	0.250
3- The bank's management documents success stories of employees and the bank's achievements	4.18	.836	0.2
4- The bank periodically evaluates the information and knowledge storage (database).	3.95	.846	0.214
5- The bank is keen to develop computer technologies for the database	3.83	.973	0.254
C - Dissemination and distribution of knowledge	3.96	.367	0.092
1- The bank motivates its expert employees, financially and morally, to participate with other employees in the exchange of knowledge and information	3.97	.836	0.210

2-Workers can easily access the required information and knowledge	3.98	.936	0.235
3- The bank adopts training programs to disseminate and exchange knowledge and experiences	3.89	.836	0.214
4- The bank provides its employees with an internal information network	4.04	.837	0.207
5- The bank's experts hold discussion sessions with employees to exchange relevant knowledge and information	3.93	.837	0.212
d- Application of knowledge	4.06	.478	0.117
1- The Bank focuses on knowledge-related activities	4.06	.768	0.189
2- The bank employs its expertise and knowledge to develop its banking operations	3.93	.827	0.210
3- The bank works to activate team work for workers	4.27	.883	0.206
4- The bank is keen to employ its knowledge to develop and provide advanced banking services	4.07	.837	0.205
5- The bank encourages its experts and managers to provide creative solutions to work problems	4.02	.937	0.233
Total knowledge management	4.07	.284	0.069

Second - the paragraphs of the questionnaire for the business intelligence variable

Table (2) shows an arithmetic mean for the business intelligence variable, and its value is (3.84), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.363) and (9.4%), respectively. This result indicates that the level of Business intelligence in the Trade Bank of Iraq is at a good level, and the paragraphs will be clarified at the level of dimensions as follows:

1. Get the data

Table (2) presents an arithmetic mean for the dimension of data acquisition and its value is (3.56), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.946) and (20.7%), respectively. Paragraph No. (23) has the highest arithmetic mean, as it reached (3.861) (decisions related to investment in our bank are taken based on the data collected and classified) and with good consistency with the answers, as the standard deviation and coefficient of variation reached (0.847) and (21.9%), respectively, and the paragraph achieved (24) (Decisions are taken in our bank depending on the

intuition of the manager and in the light of the prepared reports.) The lowest arithmetic mean was (3.136), with acceptable consistency in the answers, as the standard deviation and the coefficient of difference reached (1.148) and (36.6%), respectively.

2. Data warehouses

Table (2) shows the arithmetic mean for the dimension of data warehouses, and its value is (3.543), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.491) and (13.7%), respectively. No. (25) has the highest arithmetic mean, reaching (3.861) (integration in our bank's data depends on advanced computer systems) and good consistency with the answers, as the standard deviation and coefficient of variation reached (0.847) and (21.9%), respectively, and paragraph (28) (Our bank seeks to use the best computer techniques to store and retrieve data flexibly) the lowest arithmetic mean, as it reached (3.136), with acceptable consistency in the answers, as the standard deviation and coefficient of variation reached (1.148) and (36.6%), respectively.

3. Data processing and analysis

Table (2) presents an arithmetic mean for the dimension of data processing and analysis, and its value is (3.543), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.491) and (13.7%), respectively. Paragraph No. (31) has the highest arithmetic mean, as it reached (3.861) (the decision-maker relies on immediate processing of the stored data) and with good consistency with the answers, as the standard deviation and coefficient of variation reached (0.847) and (21.9%), respectively, and Paragraph (26) was achieved (Adequate and detailed reports on banking operations are continuously produced) the lowest arithmetic mean, which reached (3.136), with acceptable consistency with the answers, as the standard deviation and the coefficient of difference reached (1.148) and (36.6%), respectively.

4. Information display and control techniques

Table (2) reflects the arithmetic mean of the information display and control techniques dimension, and its value is (3.543), which is a good value, which is higher than the standard mean, and with little dispersion, as the standard deviation and coefficient of variation reached (0.491) and (13.7%), respectively. Paragraph No. (21) achieved the highest arithmetic mean, reaching (3.861) (the systems for evaluating, organizing, and reporting information are fast and clear) and with good consistency with the answers, as the standard deviation and coefficient of variation reached (0.847) and (21.9%), respectively, and the paragraph achieved (26) (Technologies for viewing, monitoring and following up information allow easy, fast and accurate access to information) The lowest arithmetic mean was (3.136) with acceptable consistency in the answers, as the standard deviation and the coefficient of variation reached (1.148) and (36.6%), respectively.

Table (2) the descriptive analysis of the business intelligence variable

Items	Mean	S.Dv	C.V
a- Get the data	3.56	.946	0.207
1- Our bank relies on collecting relevant data about customers continuously	3.95	.946	0.239
2- The bank's senior management supports technological applications to collect useful data on customers	3.58	.737	0.205
3- The services provided by marketing agents of banking services are relied upon as one of the channels for obtaining data	3.58	.847	0.184

4- Decisions related to investment in our bank are taken based on the data collected and classified	4.01	.847	0.189
5- Decisions are taken in our bank based on the intuition of the manager and in the light of the prepared reports.	3.48	.848	0.175
B-data warehouses	3.65	.737	0.177
1- Integration in our bank's data depends on advanced computer systems	3.83	.847	0.221
2- Analytical treatments are conducted for all data and informational reports related to banking performance	3.38	.948	0.280
3- The bank's databases are characterized by rapid response	3.79	.848	0.177
4- Our bank seeks to use the best computer technologies to store and retrieve data flexibly	3.37	.832	0.190
C- Data processing and analysis	3.48	.774	0.222
1- The decision maker relies on the immediate processing of the stored data	3.89	.884	0.227
2- Customer data analyzes are conducted before decisions are made	3.38	.837	0.247
3-Detailed reports on banking operations are constantly being prepared	3.37	.837	0.248
4-Previous reports are used to deal with changes and developments	3.48	.774	0.222
d-Information display and control techniques	3.56	.884	0.254
1-The information display and follow-up technology relies on simplicity and flexibility so that the decision-maker can understand it easily	3.95	.947	0.257

2-The systems for evaluating, organizing and reporting information are fast and clear	3.58	.837	0.207
3- Information display, control and follow-up techniques allow easy, fast and accurate access to information	3.58	.838	0.229
4-The information stored in the bank's databases is constantly filtered and updated	4.01	.836	0.220
Total business intelligence	3.48	.363	0.094

Third- Testing the correlation hypotheses

Testing the hypothesis of the main study (1) states (there is a statistically significant correlation between knowledge management and business intelligence). The correlation coefficient between knowledge management and business intelligence reached (0.874) at the level of significance (0.000), which is less than the level of significance (0.05). This means accepting the alternative hypothesis, which states (there is a statistically significant correlation between knowledge management and business intelligence).

- Testing the hypothesis of the first sub-study: which states (there is a statistically significant correlation between the generation and development of knowledge and business intelligence). The correlation coefficient = (0.746) at the level of significance (0.000), which is less than the level of significance (0.05), and this It means accepting the alternative hypothesis, which states: There is a statistically significant correlation between the generation and development of knowledge and business intelligence.
- Testing the hypothesis of the second sub-study: which states that there is a statistically significant correlation between the knowledge storage dimension and business intelligence. The correlation coefficient was (0.646) at the level of significance (0.000), which is less than the level of significance (0.05).
- Testing the hypothesis of the third sub-study: which states that there is a statistically significant correlation between the dimension of dissemination and distribution of knowledge and business intelligence. The correlation coefficient was (0.663) at the level of significance (0.000), which is less than the level of significance (0.05), which means accepting the alternative hypothesis, which states (there is a statistically significant correlation between the dimension of dissemination and distribution of knowledge and business intelligence).
- Testing the hypothesis of the fourth sub-study: which states (there is a statistically significant correlation between knowledge and business intelligence after application). The value of the correlation coefficient was (0.774) at the significance level (0.000), which is less than the significance level (0.05), which means acceptance The alternative hypothesis, which states that there is a statistically significant correlation between the dimension of knowledge application and business intelligence. As shown in Table (3).

Fourth- Testing impact hypotheses

In this section, the effect of the independent variable represented by (knowledge management) on the dependent variable represented by (business intelligence) is revealed and analyzed. Through simple linear regression analysis, and in the light of this hypothesis, a functional relationship was formulated between them, and the regression equation was as follows: $Y = a + BX$

The levels of analysis have taken the sub and total levels; To know the statistics of knowledge management for each sub-variable of the explanatory variables in each sub-variable of the response variables. Here are details of the analysis of this hypothesis:

- The impact model of generating and developing knowledge in business intelligence was significant below the level (0.01) in terms of the calculated (F) value (47.585**), which is higher than the tabular (F) value of (6.65). The value of the determination coefficient (R2) was (0.384). This means that the generation and development of knowledge

accounts for (38.4%) of business intelligence, and the value of the knowledge generation and development coefficient for human resources (B) amounted to (0.475), meaning that a change in one unit of knowledge generation and development causes a change of (47.5%) of intelligence Business

- The effect of knowledge storage on business intelligence model was significant under the level (0.01) in terms of the calculated (F) value (54.488**), which is higher than the tabular (F) value of (6.65) under the statistical level (0.01), and the value of the determination coefficient was (R2) (0.388) This means that knowledge storage accounts for (38.8%) of business intelligence, and the value of knowledge storage coefficient (B) amounted to (0.486), meaning that a change of one unit of knowledge storage causes a change of (48.6%) of Business intelligence.
- The impact model of the dissemination and distribution of knowledge in business intelligence was significant under the level (0.01) in terms of the calculated (F) value (59.484**), which is higher than the tabular (F) value of (6.65) under the statistical level (0.01). Determination (R2) (0.375), which means that the dissemination and distribution of knowledge accounts for (37.5%) of business intelligence, and the value of the coefficient for the dissemination and distribution of knowledge (B) amounted to (0.638), meaning that a change in one unit of the
- dissemination and distribution of knowledge causes a change by (63.8% of business intelligence.
- The impact model of knowledge application in business intelligence was significant under the level (0.01) in terms of the calculated (F) value (63.947**), which is higher than the tabular (F) value of (6.65) under the statistical level (0.01), and the value of the determination coefficient was (R2) (0.358) This means that the application of knowledge accounts for (35.8%) of business intelligence, and the value of the knowledge application coefficient (B) amounted to (0.748), meaning that a change in one unit of knowledge application causes a change of (74.8%) of Business intelligence.

Table (3) the values of the correlation between the dimensions of knowledge management and business intelligence

Dimensions of knowledge management variable	**Correlation value and significance level**		**dependent variable**
Knowledge generation and development	**0.746**	R	business intelligence
	0.000	**Sig**	
Stock up on knowledge	0.646	**R**	
	0.000	**Sig**	
Dissemination and distribution of knowledge	0.663	**R**	
	0.000	**Sig**	
Knowledge application	0.774	**R**	
	0.000	**Sig**	
knowledge management	0.874	**R**	
	0.000	**Sig**	

- The impact model of total knowledge management in business intelligence was significant under the level (0.01) in terms of the calculated (F) value (68.389**), which is higher than the tabular (F) value of (6.65) under the statistical level (0.01). Determination (R2) (0.483), which means that the total knowledge management accounts for (48.3%) of business intelligence, and the value of the knowledge management coefficient (B) amounted to (0.784), meaning that a change of one unit of the total knowledge management causes a change of (78.4) % of business

intelligence and this result provides sufficient support to accept the main hypothesis "there is a statistically significant effect between knowledge management and business intelligence". Thus, the regression model is as follows: business intelligence = 843. + 0.784 (total knowledge management).

Table (4) linear regression coefficient values for knowledge management in business intelligence

Dimensions of knowledge management	α	B	F	Statistical	R^2 Adjusted
Knowledge generation and development	**1.593**	**0.475**	**47.585****	**.000**	**%38.4**
Stock up on knowledge	**1.267**	**0.486**	**54.488****	**.000**	**%38.8**
Dissemination and distribution of knowledge	**0.785**	**0.638**	**59.484****	**.000**	**%37.5**
Knowledge application	**1.477**	**0.748**	**63.947****	**.000**	**%35.8**
Total knowledge management	**0.843**	**0.784**	**68.389****	**.000**	**%48.3**

The tabular F value under the statistical level (0.05) = 3.8466 and the tabular F value under the statistical level (0.01) = 6.65

- The impact model of total knowledge management in business intelligence was significant under the level (0.01) in terms of the calculated (F) value (68.389**), which is higher than the tabular (F) value of (6.65) under the statistical level (0.01). Determination (R2) (0.483), which means that the total knowledge management accounts for (48.3%) of business intelligence, and the value of the knowledge management coefficient (B) amounted to (0.784), meaning that a change of one unit of the total knowledge management causes a change of (78.4) % of business intelligence and this result provides sufficient support to accept the main hypothesis "there is a statistically significant effect between knowledge management and business intelligence". Thus, the regression model is as follows:

business intelligence = 843. + 0.784 (total knowledge management)

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. It was concluded that the Trade Bank of Iraq attracts workers on the basis of experience and skill, and documents their success stories and achievements and stores their data.

2. the bank has an internal information network to carry out the provided banking services efficiently

3. The level of learning of the workers and the acquisition of experience from the experienced workers was not at the required level

4. Vital decisions are taken by the bank's management in light of the information that is collected and classified quickly and clearly by means of advanced computer systems.

5. The management of the bank relies to some extent on intuition and guesswork, and on relevant reports and computer programs, even if they are insufficient.

6. it was found that knowledge management is closely related to business intelligence, especially with regard to the dimension of knowledge application

7. Knowledge management has a significant impact on business intelligence at the Trade Bank of Iraq

Recommendations

1. The bank's management should continue to attract those with experience in banking, taking into account their desire to share their tacit knowledge with other employees in order to preserve their expertise from waste, leakage and forgetfulness.

2. It is necessary for the bank's management to intensify the information-digital networking for the purpose of uniting the parties inside the bank and stakeholders outside the bank with each other.

3. The bank management is required to encourage employees to share knowledge and put them in training courses related to their field of work to increase their job skills

4. The bank's management should acquire modern banking software (software) that is compatible with the nature and variables of the external environment to ensure competitive advantage in the banking environment.

5. The management of the bank should rely on intuition and guessing in case the information is uncertain and insufficient

6. The need to invest the positive relationship of knowledge management with business intelligence in the processes of improving performance in the banking business

7. The necessity of strengthening the role of knowledge management in its dimensions, revitalizing it, and activating its role within banking operations for the purpose of bringing about more positive developments in the intelligence of banking business.

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